FIELD OVERSIGHT ACTIVITIES REPORT
GROUND WATER SAMPLING (3 DECEMBER 2007)
GULFCO MARINE MAINTENANCE SITE, FREEPORT, TEXAS

This Field Oversight Activities Report summarizes remedial investigation/feasibility study (RI/FS) oversight activities conducted on 3 December 2007 at the Gulfco Marine Maintenance (Gulfco) Superfund site, located in Freeport, Brazoria County, Texas. As requested by the U.S. Environmental Protection Agency (EPA), EA Engineering, Science, and Technology, Inc. (EA) performed oversight of ground water sampling activities conducted by the potentially responsible party (PRP)'s primary consultant, Pastor, Behling & Wheeler, LLC (PBW). Additionally, EA obtained one split sample of ground water, as directed by EPA.

Participants included:

- Mr. John Braden, PBW
- Mr. Duane Thomas, EA

During field oversight activities, EA is required to evaluate and document PRP performance of field work and confirm PRP adherence with applicable standard operating procedures (SOPs) and the following EPA-approved documents:

- PBW's RI/FS Work Plan (PBW 2005)
- PBW's Sampling and Analysis Plan (PBW 2006)
- PBW's Memorandum: "Groundwater Data" (PBW 2007)
- EPA's Memorandum: "Groundwater Data and Proposed Monitoring Wells" (EPA 2007)

EPA-approved SAP developed in Task 1 for the purpose of documenting PRP performance of field work and confirming PRP adherence to the EPA-approved RI/FS Work Plan and SAP. According to EA oversight personnel, PBW performed field activities in accordance with the aforementioned EPA-approved documents, with the following exception:

- During low-flow purging and water quality stabilization activities at monitoring well NE3MW30B, PBW did not intermittently measure drawdown with a water level indicator to ensure that drawdown did not exceed more than 10% of the length of the saturated well screen (PBW SOP No. 10: Water Quality Sampling).

HEALTH AND SAFETY

PBW conducted daily health and safety briefings prior to initiation of field activities.

WEATHER CONDITIONS

During the ground water sampling activities, weather was clear and sunny, with light northeasterly winds (5 – 10 miles per hour) and an ambient temperature of 68° F.

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SITE ACTIVITIES

3 December 2007

At 1040 hours, EA arrived at the Gulfco site and met with the PBW representative. EA and PBW began to prepare sample containers and documentation associated with scheduled sampling activities.

At 1300 hours, PBW gauged well **NE3MW30B** with a Keck® water level indicator; depth to water was 4.78 feet below top of casing (btoc). The total depth was measured at 35 feet btoc. The mid-screen level was determined by PBW to be 30 feet btoc. At 1300 hours, PBW initiated low-flow purging activities, maintaining a flow rate of 0.2 liter per minute. Purging was accomplished with a Geotech® GeoPump 2 peristaltic sampling pump and Teflon® tubing; the pump intake (tubing) was set at the middle of the screen interval. After 10 minutes of low-flow purging, PBW began monitoring water quality parameters at 5-minute intervals using a YSI® water quality meter (Model No. 556MPS) and a Hach® turbidimeter (Model No. 2100P). EA noted that the purge water from NE3MW30B was slightly turbid and tinted yellow. **Table 1** summarizes the final water quality/stabilization data collected from NE3MW30B on 3 December 2007.

TABLE 1 WATER QUALITY/STABILIZATION SUMMARY FOR NE3MW30B

Purge Rate (L/min)	Temperature (°C)	pH	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)
0.2	23.0	6.26	476.38	21.0	0.30	-66.3

Notes:
L/min = liter per minute
mg/L = milligram per liter
mS/cm = milliSiemens per centimeter (equivalent to millimhos per centimeter)
mV = millivolt
NTU = Nephrolemetric Turbidity Unit

At 1340 hours, PBW began sample collection at NE3MW30B; EA noted the split sample collection time as 1340 hours. PBW collected ground water samples for analyses for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, and metals. In accordance with their SOP No. 10, PBW collected the metals fraction with an in-line 10-micron filter (turbidity remained greater than 10 NTUs).

EA obtained a split sample for the following laboratory analyses:

- VOCs (EPA SW-846 Method 8260B)
- SVOCs (EPA SW-846 Method 8270C)
- Organochlorine pesticides (EPA SW-846 Method 8081A)

Table 2 summarizes the ground water sample collected on 3 December 2007.

TABLE 2 GROUND WATER SAMPLE SUMMARY (3 DECEMBER 2007)

PBW Sample ID	PBW Analytical Parameters	Date Collected	EA Split Sample Collection Time	EA Split Sample ID	EA Analytical Parameters
NE3 MW-30B	VOCs SVOCs Pesticides Metals	12/03/07	1340 hours	NE3 MW-30B	VOCs SVOCs Organochlorine pesticides

At 1430 hours, EA departed the site for the Houston office. EA then processed the sample containers and completed the sample documentation. At 0930 hours, on 4 December 2007, EA relinquished the sample coolers to FedEx for shipment to its subcontract laboratory in Austin, Texas.

REFERENCES

Pastor, Behling & Wheeler, LLC (PBW). 2005. "Remedial Investigation and Feasibility Study (RI/FS) Work Plan for the Gulfco Marine Maintenance Superfund Site, Freeport, Texas." May.

PBW. 2006. "Sampling and Analysis Plan – Volume 1. Field Sampling Plan for the Gulfco Marine Maintenance Superfund Site, Freeport, Texas." May.

PBW. 2007. Memorandum to Mr. Gary Miller, U.S. Environmental Protection Agency: "Groundwater Data, Gulfco Marine Maintenance Site, Freeport, Texas." 19 January.

U.S. Environmental Protection Agency. 2007. Memorandum to Mr. Eric Pastor, PBW: "Groundwater Data and Proposed Monitoring Wells, Gulfco Marine Maintenance Superfund Site, Freeport, Texas, Unilateral Administrative Order, CERCLA Docket No. 06-05-05." 14 February.